

# **EXHIBIT N -**

# **PART 2**

controller. The ALJ declines to adopt TPL's other requirements that the controller "change one or more signals provided to one or more contact pins via one or more signal lines depending on card type." This would amount to purely functional claiming and would not be structure. Respondents remain free to raise their indefiniteness defense at the hearing and may attempt to prove by clear and convincing evidence that a person of ordinary skill at the time of the invention would not have understood the term.<sup>11</sup>

**7. "type of memory [media] card" ('443 patent, cls. 1 and 9; '424 patent, cls. 25 and 28)**

<b>TPL's Proposal</b>	<b>Respondents' Proposal</b>
<p>Plain and ordinary meaning, no construction necessary.</p> <p>In the alternative, if construed:</p> <p>"a memory media card that is a member of a group of memory media cards that comply with the same specifications as other cards that have the same certification, such as the Multi Media Card certification or the Secure Digital certification, which each define a different type of memory media card"</p>	<p>Different "types of cards" have incompatible electrical and physical interfaces. For purposes of mapping/identifying in these claims, MMC/SD is a single type of memory media card.</p>

The parties' dispute regarding this term centers on whether, for purposes of the mapping and identifying elements of the asserted claims, that MMC and SD cards are a single card type or instead are two different types of media cards. This claim term is found in the '443, '424, and '847 Patents and the parties agree that it should be construed consistently across all of the patents.

Respondents rely on several points to prove their assertion that in referring to "type of memory [media] card," the patents define MMC and SD as a single "type." First, Respondents

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<sup>11</sup> The ALJ notes that Respondents' arguments on this point more closely resemble enablement arguments rather than indefiniteness arguments. See *Liebel-Flarsheim Co. v. Medrad, Inc.*, 481 F.3d 1371 (Fed. Cir. 2007).

rely on several of the dependent claims. In those dependent claims, the patentee lists a number of formats of memory media cards. For example, claims 2 and 7 of the '443 Patent and claims 3 and 10 of the '424 Patent are representative (Respondents also identify claims 10 and 14 of the '443 Patent; and claims 17, and 22 of the '424 Patent):

2. The multi-memory media adapter of claim 1 wherein the memory media card is one of a group comprising of xD, MMC/SD, Memory Stick, miniSD, RSMMC, and MS Duo.
7. The multi-memory media adapter of claim 1 having at least 18 contact pins configured to accommodate at least one of a group comprising, an xD, MMC/SD, Memory Stick, miniSD, RSMMC, and MS Duo.
3. The media card adapter of claim 1, wherein the adapter is operable to receive and read a memory media card comprising at least one of xD, MMC/SD, Memory Stick, miniSD, RSMMC, and MS Duo.
10. The system of claim 8, wherein the adapter is operable to receive and read a memory media card comprising at least one of xD, MMC/SD, Memory Stick, miniSD, RSMMC, and MS Duo.

Respondents argue that “each of these dependent claims recites a group comprising six enumerated types of memory media cards separated by commas....” (ROB at 46.) Respondents continue that “six of the eight claims expressly equate ‘MMC/SD’ to a single ‘memory media card.’” (*Id.*) Respondents argue that if “Applicant intended for MMC and SD format cards to be treated as two separate types of memory cards rather than just one, the references to ‘MMC’ and ‘SD’ would be separated by a comma—as was done with the other types of memory cards in the list.” (*Id.*) Respondents conclude that this “combined MMC/SD notation, when set forth in a list of other indisputably separate types of media cards separated by commas, plainly denotes that MMC and SD are ‘one’ type of memory card—not two—for purposes of claims requiring pin mapping based on card identification.” (*Id.*) Respondents argue that any other construction would be inconsistent with these dependent claims. (*Id.* at 46-47.)

Second, Respondents also point to other references in the specification that use similar punctuation and refer to “MMC/SD.” (*See* ’443 Patent at 1:67-2:2, 3:52-54, 55-58, 5:54-6:24, 6:59-60, Figure 4 and 5.) Respondents argue that this amounts to an express definition of MMC and SD as one type of memory card. Respondents note that there are other references to MMC and SD that do not use the “MMC/SD” notation, but Respondents argue that those references are in relation to other embodiments that do not map and identify the memory media cards.

Finally, Respondents point to the prosecution history of the ’443 Patent. In that prosecution history, Applicants distinguished the Hung-Ju reference discussed above in reference to mapping. Respondents argue that to overcome Hung-Ju, Applicants argued that in Hung-Ju each type of memory card had its own non-shared set of contact pins, and therefore Hung-Ju did not map signals to pins based on identified card type. (ROB at 49.) Respondents assert that this argument can only make sense if MMC cards and SD cards are considered to be one type of memory card. (ROB at 50.) Respondents argue that the prosecution history demonstrates that Applicant was aware that Hung-Ju disclosed a device where MMC and SD cards share common contact pins, but chose to characterize them as a single type of memory media card in distinguishing the proposed claims over Hung-Ju. Respondents assert that the prosecution history confirms: 1) “MMC and SD cards are to be treated as a single card type for purposes of mapping signals to pins and identifying cards...”; and 2) the asserted patents’ “mapping claims do not cover devices that interface with MMC and SD cards using shared contact pins.” (ROB at 51.)

TPL argues that no construction is necessary for this term because the meaning is readily discernible. (COB at 43.) However, if the term is construed, TPL requests that the construction should “clarify that one of ordinary skill in the art would understand that a type of memory card

is one that is a member of a group of memory media cards that complies with the same specifications as other cards that have the same certification.” (COB at 43.) TPL submits that these certifications “may, for example, be Multi Media Card (MMC) certifications or Secure Digital (SD) certifications.”

TPL points to references in the specification where MMC and SD cards are referred to separately. (COB at 44; ’443 Patent at 1:67-2:2; Figure 1.) TPL argues that the slash between the MMC and SD merely indicates that the two cards are similar but does not mean that they are the same card type. (CRB at 18.) TPL also points to the prosecution history of the ’847 Patent and ’424 Patent where the Applicants clearly stated that MMC and SD were different card types. (CRB at 18-19.) As for Respondents’ arguments regarding Hung-Ju, TPL argues that Respondents have not shown how the applicant clearly and unmistakably disclaimed SD and MMC card types from being different card types for the purposes of mapping or identifying. (CRB at 20.) TPL notes that there was no express discussion of MMC and SD cards by applicant in relation to Hung-Ju in the prosecution history. (CRB at 20.)

The ALJ agrees with TPL that this term should simply be given its plain and ordinary meaning and that MMC and SD are not necessarily one type of memory card. The claim term “type of memory media card” is broad enough to encompass the situation where MMC and SD cards are different “types.” They are not identical. Thus, for Respondents’ construction to be correct, the question is whether the patentee either defined “type” where MMC and SD are the same “type” or whether the patentee disclaimed claim scope such that the claims have been narrowed. *See Thorner*, 669 F.3d at 1365. The ALJ does not find any such definition or disclaimer of claim scope in the claim language, specification, or the prosecution history.

Beginning with the claim language, it is clear that the claim language itself is broad enough where SD and MMC could be different “types” of memory cards. There is nothing in the language of the independent claims that supports a narrower construction that would hold that SD and MMC are the same type of memory card. Instead, Respondents rely on language in some of the dependent claims that includes lists of possible formats of memory cards that can be used in the claimed invention. In those dependent claims, the patentee lists various categories or groups of memory cards separated by a comma. One of the categories of cards listed refers to “MMC/SD.” Respondents contend that the patentee’s use of a virgule (*i.e.*, slash) instead of a comma between MMC and SD indicates that MMC and SD are a single format for purposes of these claims. However, the ALJ is not persuaded that this punctuation alone is sufficient to find that the patentee meant that these were a single “type” of memory card. While the structure of the lists of memory card formats in these dependent claims does suggest that MMC and SD are certainly related and that they are distinct from the other formats, there is nothing that “compels” (as Respondents contend) that MMC and SD be the same “type” of memory card as described in the claims.

First, there is no reference of “type” in any of these dependent claims. The dependent claims only refer to “memory media card.” Thus, there is nothing to indicate that MMC and SD are the same “type” of “memory media card” for purposes of the claims.

Second, the virgule (*i.e.*, slash) that separates the two terms has many possible meanings; some of those meanings are consistent with MMC and SD being different “types.” For example, a vigule can mean “or,” “and,” or even to indicate a “vague distinction, in which it’s not quite an *or*.<sup>12</sup> Bryan A. Garner, *Garner’s Modern American Usage* 682 (Oxford Univ. Press 3d ed.

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<sup>12</sup> Garner’s entire discussion of this punctuation mark is worth repeating:

2009). TPL suggests this last meaning in its brief, when it explains that the virgule in the dependent claims merely means that these two types of cards are related not that they are the same “type” of memory card. This is certainly plausible just looking at the claim language alone. Thus, Respondents’ construction is not compelled by the claim language.

Moreover, any doubt that this conclusion is correct is confirmed by the specification. While Respondents are correct that in some parts of the specification the patentee also uses the “MMC/SD” construction to refer to these two formats of cards, this construction is not conclusive for the same reasons its use in the dependent claims are not conclusive—the slash (or virgule) does not necessarily mean MMC and SD are the same thing. Moreover, nothing in the specification expressly defines them as the same “type.” On the contrary, the specification acknowledges they are different. For example, the specification states “the reader can adapt to a MultiMedia Card 141, or a Secure Digital card 143, which have the same form factor but slightly different pin-out....” (’424 Patent at 2:2-4.) An even more detailed discussion is provided in the ’638 Patent, which is fully incorporated by reference into the ’443, ’424, and ’847 Patents. *See DealerTrack, Inc. v. Huber*, 674 F.3d 1315, 1323 (Fed. Cir. 2012) (finding incorporation by reference met with similar language to that used in the Asserted Patents). The ’638 Patent specification explains:

Other kinds of flash-memory cards that are being championed by different manufacturers include MultiMediaCard (MMC) 28 and related Secure Digital Card (SD) 26. MMC is a trademark of SanDisk Corp. of Sunnyvale, Calif. while SD is controlled by SD Group that includes Matsushita Electric Industrial Co., SanDisk Corporation, Toshiba Corp.

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Q. Virgule [/]. Known popularly as the “slash,” arcaneously as the “solidus,” and somewhere in between as the “diagonal,” the virgule is a mark that doesn’t appear much in first-rate writing. Some writers use it to mean “per” <50 words/minute>. Others use it to mean “or” <and/or> or “and” <every employee/independent contractor must complete form XJ42A>. Still others use it to indicate a vague disjunction, in which it’s not quite an *or* <the novel/novella distinction>. In this last use, the en-dash is usually a better choice. . . . In all these uses, there’s almost always a better choice than the virgule. Use it as a last resort. . . . Garner, *Garner’s Modern American Usage* at 682.

('638 Patent at 2:29-35.)

In addition, the '638 Patent explicitly lists MMC and SD as different “types” of multi-media memory cards: “The CompactFlash reader can use a single CompactFlash slot to read multiple flash-card types, including SmartMedia, MultiMediaCard, Secure Digital, Memory Stick, and CompactFlash.” ('638 Patent at 4:45-48.) The specification also uses the “MMC/SD” notation interchangeably. (*See id.* at 4:3-4, 5:51-55, 6:52-55.) Indeed, as this paragraph makes clear the reason the MMC/SD notation is used is because the similarities between the two card types:

MultiMediaCard 28 and Secure Digital card 26 are flash-memory cards with similar 9-pin interfaces. Serial data transfer is used through a single Data I/O pin. MMC/SD adapter 32 has an opening with a 9-pin connector to receive either MultiMediaCard 28 or Secure Digital card 26. Once MultiMediaCard 28 or Secure Digital card 26 is inserted into MMC/SD adapter 32, then MMC/SD adapter 32 can be inserted into a CompactFlash slot on a special CompactFlash reader. The CompactFlash reader then detects the card type and performs serial-to-parallel conversion.

('638 Patent at 5:15-24.)

Thus, the specification supports a conclusion that MMC and SD are different types. At the very least, these passages in the Asserted Patents and the '638 Patent demonstrate that there has not been a clear redefining of “type” or that there has been a clear and unmistakable disclaimer of claim scope. *See Thorner*, 669 F.3d at 1365-67 (noting lexicography requires “clearly express[ed] intent” and to constitute disclaimer, “there must be a clear and unmistakable disclaimer.”)

Finally, as for Respondents’ reliance on the prosecution history, this presents a closer case. During the prosecution, the '443 Patent was rejected as anticipated by U.S. Patent No. 6,402,558 to Hung-Ju. In distinguishing Hung-Ju, the Applicants argued:

Further, in Hung-Ju,

*"the multi-media card or the digital card can be inserted into the card insertion slot 106b with the input/output contact points facing down. Similarly, the card insertion slot 106a can accommodate a smart media card. Because the 22 contact pins 104a are fixed at appropriate positions on the upper frame 102a, the smart media card can be inserted into the card insertion slot 106a with the input/output contact points facing up.*

(Col. 3 lines 32-41)

*"A smart media card (SMC) must be inserted into the memory card adapter with the input/output contact points of the card facing up so that proper electrical contacts with the contact pins 104a can be made.* (Col. 4 lines 19-21)

Thus, different types of media cards are inserted in the memory card adapter with different orientations (e.g., facing up or down) depending on where the set of contact pins used for a particular type of memory card is physically located in the memory card adapter. Hung-Ju does not suggest, motivate, or teach a controller chip to "may at least a subset of the at least one set of contact pins to a set of signal lines or power lines" based on an identified type of a memory media card.

...  
(Respondents' Br. Ex. 7: Response to Office Action dated February 7, 2007 at TPL002555-56 (emphasis in the original).)

Respondents assert that implicit in this argument is the assumption that the multi-media card and the digital card (SD card) must be the same type. However, prosecution history disclaimers must be clear and unambiguous. *See Omega Eng'g*, 334 F.3d at 1324. While Respondents present an interesting argument, this discussion is not clear and unambiguous. There is no express discussion of MMC and SD cards as a single type by applicant in relation to Hung Ju. Moreover, TPL presented other statements from the prosecution of the '424 and '847 Patents where Applicants clearly state that MMC and SD cards are separate card types. (*See CRB Exhibit G: June 9, 2009 Amendment from '847 Patent File History at 9-10; Exhibit D: April 4, 2008 Amendment at 11; Exhibit B: February 8, 2010 Amendment '847 Patent File History at 6-7.*)

TPL's proposed construction can be easily dispatched. TPL seeks to require that a type of memory card must "comply with the same specifications as other cards that have the same certification, such as the Multi Media Card certification or the Secure Digital certification, which

each define a different type of memory media card....” TPL points to nothing in the specification or anywhere else in the intrinsic evidence that discusses various types of certification and that would justify reading this requirement into the claims. Accordingly, this proposed construction is rejected. The ALJ finds that the claim language is clear on its face and that the term will have its plain and ordinary meaning and that no other construction is necessary.

**8. “means for identifying the type of card inserted into said port” (‘424 patent, cls. 25 and 26)/“means for determining the type of card inserted into said port” (‘847 patent, cl. 2)**

Because these phrases are used synonymously within the context of the claims, the ALJ addresses both terms together.

TPL’s Proposal	Respondents’ Proposal
<p>Means-plus-function element, subject to 35 U.S.C. §112, ¶ 6.</p> <p><u>Function for ‘424 and ‘847 patents:</u> “identifying the type of memory card inserted into said port”</p> <p><u>Structure for ‘424 patent includes at least the following:</u> ‘424 patent Fig. 4; Fig. 5; 5:54-6:63; and equivalent structures.</p> <p><u>Structure for ‘847 patent includes at least the following:</u> ‘847 patent: Figs. 4 and 5; 5:41-6:49; and equivalent structures.</p>	<p>Means-plus-function element, subject to 35 U.S.C. §112, ¶ 6.</p> <p><u>Function for ‘424 patent:</u> Identifying the type of memory card inserted into said port</p> <p><u>Function for ‘847 patent:</u> Determining the type of memory card</p> <p><u>Structure for ‘424 and ‘847 patents:</u> A controller that reads card detect lines for the various cards, wherein the card detect lines for some cards are multiplexed with parallel data lines for at least one other card.</p>

The parties agree that these claim terms are means plus function terms governed by 35 U.S.C. § 112 ¶ 6. The parties also appear to largely agree on the claimed function—identifying the type of memory card inserted in the said port. Although Respondents adopt different wording for the “means for determining” function from the “means for identifying” function, they offer no argument that there is any difference between “determining” and “identifying” and

they do not seem to contend there is any. Moreover, the ALJ discerns no difference between these words as they are used in the claims and intrinsic evidence cited. Accordingly, the ALJ determines that the function for these two claim terms is “identifying the type of memory card inserted into said port.” The sole dispute is over what the corresponding structure is for these claims.

TPL argues that the specification does not limit the structure to card detect lines, but can also encompass card detect pins.

Respondents argue that the only structure for identifying the card type disclosed in the specification is a controller that reads card detect lines for the various cards, wherein the card detect lines for some cards are multiplexed with parallel data lines for at least one other card.

The ALJ agrees in part with Respondents. The vast majority citations from the '443, '424, and '847 Patents that TPL cites have little to do with identifying the type of card. These sections mostly deal with mapping of the signals and power lines. (COB at 16-18 (quoting '424 Patent at 5:54-6:63).) The sole section that actually deals with identifying the type of card inserted is:

For such an embodiment, pin 1 is a ground pin and pin 18 is a power pin for each connector. The data lines for the SmartMedia and xD interface cards have a parallel data bus of 8 bits denoted as D0-D7 that occupy pins 10-17. These data bus lines are multiplexed to serve as card-detect lines for the remaining media types. As described in application Ser. No. 09/610,904 (now U.S. Pat. No. 6,438,638), the signal lines to the controller are normally pulled high. When a card is inserted, the card pulls its connected pins low. Detection of card type is determined by detection of which of the mapped card detect lines is pulled low as illustrated in FIG. 5, or by the (binary) state of data or other card pins mapped to a common set of controller pins as described in the aforesaid parent application. See, e.g., FIGS. 4A-E thereof. While no separate address bus is provided, address and data are multiplexed. Control signals for latch enables, write enable and protect, output enable, and ready handshake are among the control signals.

('424 Patent at 6:36-53.)

This is the only structure disclosed in the specification. TPL asks the ALJ to expand the structure far beyond this disclosure to effectively include the disclosure of the '638 Patent because a person of ordinary skill would have understood their specification to include these additional detection means. However, the law is clear that “material incorporated by reference cannot provide the corresponding structure necessary to satisfy the definiteness requirement for a means-plus-function clause.” *Default Proof Credit Card Sys. Inc. v. Home Depot USA, Inc.*, 412 F.3d 1291, 1301 (Fed. Cir. 2005). Moreover, any effort to capture this material based on expert testimony about what one skilled in the art would have understood cannot suffice either because there is no disclosure of these other methods in the specification. See *Medical Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1212 (Fed. Cir. 2003). However, the description above is not as narrow as Respondents contend. It includes both card detect lines and the binary state of data lines. This is clearly recited in the specification without the need to reference the material incorporated by reference. The ALJ does not agree with TPL’s wholesale effort to point to the entire specification. Thus, the ALJ finds that the corresponding structure is a controller.

The ALJ rejects Respondents’ contention that this is indefinite. As discussed above, TPL presented evidence that this is known structure in the field. In addition, the ALJ finds that if an algorithm were required that the description found in the '424 Patent at 6:36-53 is sufficient. An algorithm is simply “a series of instructions for the computer to follow . . . whether in mathematical formula or a written description of the procedure to be implemented by a suitably programmed computer.” *Typhoon Touch Tech., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1384 (Fed. Cir. 2011) (citations and quotation marks omitted). Such an algorithm may be expressed “in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure.” *Id.* at 1385 (quotation marks omitted). The

discussion in the '424 Patent at 6:36-53 is more than sufficient under these criteria. Also, the ALJ notes that TPL is correct that there is no requirement in this disclosure that all types of media cards have their data multiplexed. The only discussion of multiplexing is with regard to the SmartMedia and xD media cards and not all of the media cards and not universally, so TPL is correct that it is unnecessary to include Respondents' construction that "some cards are multiplexed with parallel data lines for at least one other card."

#### **IV. THE '638 PATENT**

##### **A. Background and the Claims**

U.S. Patent No. 6,438,638 ("the '638 Patent") is entitled "Flashtoaster for Reading Several Types of Flash-Memory Cards With or Without a PC" issued on August 20, 2002, to Larry Jones, Sreenath Mambakkam, and Arockiyaswamy Venkidu. TPL asserts Claims 13-18, and 25-27 of the '638 patent. Claims 13, 25, and 26 are independent claims. Claims 15-18 depend on claim 13 and claim 27 depends on claims 26. The asserted claims read as follow (with the disputed terms in bold):

13. A multi-flash-card reader comprising:

a host connection for transferring data to a host computer;

**a converter chip, coupled to the host connection, for converting signals from flash-memory cards to read data from the flash-memory cards for transfer to the host computer;**

a first connector, coupled to the converter chip, for accepting a CompactFlash card inserted into a first slot for the first connector, the first connector having a parallel-data bus and an address bus and control signals for controlling parallel data transfer from the CompactFlash card to the converter chip;

a second connector, coupled to the converter chip, for accepting a SmartMedia card inserted into a second slot for the second connector, the second connector having a parallel-data bus and control signals for controlling parallel data transfer from the SmartMedia card to the converter chip; and

a third connector, coupled to the converter chip, for accepting a MultiMediaCard MMC card inserted into a third slot for the third connector, the third connector having a serial-data pin and a clock pin for controlling serial data transfer from the MMC card to the converter chip;

wherein the converter chip controls parallel data and address transfer for the CompactFlash card, parallel data transfer for the SmartMedia card, and serial data transfer for the MMC card, whereby multiple flash-memory cards can be read by the multi-flash-card reader using the converter chip.

14. The multi-flash-card reader of claim 13 wherein the first connector, the second connector, and the third connector each have card detect signals for detecting presence of a flash-memory card inserted into a connector;

wherein the converter chip senses a voltage change in the card detect signals from a connector and activates a routine to access the flash-memory card activating the card detect signals, whereby flash-memory cards are detected by the converter chip.

15. The multi-flash-card reader of claim 14 further comprising: a fourth connector, coupled to the converter chip, for accepting a Memory Stick card inserted into a fourth slot for the fourth connector, the fourth connector having a serial-data pin and a clock pin for controlling serial data transfer from the Memory Stick card to the converter chip; wherein the converter chip also controls serial data transfer for the Memory Stick card.

16. The multi-flash-card reader of claim 14 further comprising: a fourth connector, coupled to the converter chip, for accepting a Memory Stick card inserted into the fourth connector, the fourth connector having at least one serial data pin and a clock pin for controlling serial data transfer from the Memory Stick card to the converter chip; wherein the converter chip also controls serial data transfer for the Memory Stick card.

17. The multi-flash-card reader of claim 15 wherein the host connection is through an external cable to the host computer; wherein the multi-flash-card reader is in an external housing separate from the host computer chassis, whereby the multi-flash-card reader is external.

18. The multi-flash-card reader of claim 15 wherein the host connection is through an internal cable to a board for the host computer; wherein the multi-flash-card reader is in a computer chassis that contains the host computer, whereby the multi-flash-card reader is internal.

25. A multi-flash-card reader comprising:

a host connection for transferring data to a host computer;

**a converter chip, coupled to the host connection, for converting signals from flash-memory cards to read data from the flash memory cards for transfer to the host computer;**

a first connector coupled to the converter chip, for accepting a CompactFlash card inserted into the first connector, the first connector having a data bus and an address bus and control signals for controlling parallel data transfer from the CompactFlash card to the converter chip;

a second connector, coupled to the converter chip, for accepting a SmartMedia card inserted into the second connector, the second connector having a data bus and control signals for controlling parallel data transfer from the SmartMedia card to the converter chip; and

a third connector, coupled to the convener chip, for accepting a MultiMediaCard MMC card iced into the i connector, the third connector having at least one serial-data pin and a clock pin for controlling serial data transfer from the MMC card to the converter chip;

wherein the converter chip controls parallel data and address transfer for the CompactFlash card, data transfer for the SmartMedia card, and serial data transfer for the MMC cared, whereby multiple flash-memory cards can be read by the multi-flash-card reader using the converter chip.

26. A multi-flash-card reader comprising:

a host connection for transferring data to and from a host computer;

**a converter chip, coupled to the host connection, for converting signals from flash-memory cards to read data from the flash-memory cards for transfer to and from the host computer;**

a first connector, coupled to the converter chip, for accepting a CompactFlash card inserted into the first connector, the first connector having a data bus and an address bus and control signals for controlling parallel data transfer from the CompactFlash card to the converter chip;

a second connector, coupled to the convener chip, for accepting a SmartMedia card insured into the second connector, the second connector having a data bus and control signals for controlling parallel data transfer to and from the SmartMedia card to and from the converter chip; and

a third connector, coupled to the converter chip, for accepting a MultiMediaCard (MMC) or Secure Digital (SD) card inserted into the

third connector, the third connector having at least one serial pin and a clock pin for controlling serial data transfer to and from the MMC/SD card to and from the converter chip;

wherein the converter chip controls data and address transfer for the CompactFlash card, data transfer for the SmartMedia card, and serial data transfer for the MMC/SD card, whereby multiple flash-memory cards can be read by the multi-flash-card reader using the converter chip.

27. The multi-flash-card reader of claim 26 further comprising: a fourth connector, coupled to the converter chip, for accepting a Memory Stick card inserted into the forth connector, the fourth connector having at least one serial-data pin and a clock pin for controlling serial data transfer from the Memory Stick card to the converter chip; wherein the converter chip also controls serial data transfer for the Memory Stick.

**B. “a converter chip, coupled to the host connection, for converting signals from flash-memory cards to read data from the flash-memory cards for transfer to the host computer” ('638 patent, cls. 13 and 25)/ “a converter chip, coupled to the host connection, for converting signals from flash-memory cards to read data from the flash-memory cards for transfer to and from the host computer” ('638 patent, cl. 26)**

<b>TPL's Proposal</b>	<b>Respondents' Proposal</b>
<p>Plain and ordinary meaning, no construction necessary.</p> <p>In the alternative, if construed:</p> <p>(A) “a chip, operably connected to a host computer, such that the chip is capable of reading data from a flash memory card, and transferring the read data to the host computer, wherein the converter chip is capable of translating the signals from the flash-memory card to read data”</p> <p>(B) “a chip, operably connected to a host computer, such that the chip is capable of reading data from a flash memory card, transferring the read data to the host computer, and receiving data from the host computer, wherein the converter chip is capable of translating the signals from the flash-memory</p>	<p>A converter chip, coupled to the host connection, that configures itself to read files from the inserted card using the pin interface of FIG. 5 corresponding to the card type.</p>

card to read data”	
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The principal dispute between the parties regarding this claim term is whether the claimed converter chip is limited to the pin configuration described in Figure 5 of the '638 Patent. Respondents argue that the claim language requires that the “converter chip must perform some action in response to a memory card being inserted, in order to read data from that memory card.” (ROB at 62.) Respondents contend that their construction “properly reflects this by requiring that the converter chip configure itself according to Figure 5.” (*Id.*) Respondents argue that this configuration is consistent with claims 13, 25, and 26 because they specifically require the memory card types (CompactFlash card, SmartMedia card, and MultiMedia card) identified in the pin configuration of Figure 5. Respondents further argue that the converter chip must be limited to the pin configuration in Figure 5 because the specification “repeatedly and consistently” describes the claimed invention in this way. (ROB at 62-63.) Respondents also assert that “the inventors characterized this particular pin configuration of Figure 5 as their alleged invention.” (ROB at 63.) Respondents argue that TPL’s proposed construction merely replaces “converting signals” with translating signals and only requires that the converter chip be “capable of reading data and capable of translating signals.” (ROB at 64.) Respondents argue that both of these parts of TPL’s construction are in error and should be rejected.

TPL submits that this term is clear and does not require construction. TPL argues that Respondents’ construction should be rejected because it improperly limits the claims to reading from the flash memory card. In the alternative, TPL argues that if this term is construed, the ALJ should adopt its construction, which is derived from the Abstract of the '638 Patent and is consistent with the Reasons for Allowance included in the Notice of Allowability issued by the examiner. (COB at 36.) TPL asserts that nothing in the intrinsic record supports limiting

“converter chip” to the embodiment in Figure 5. Also, TPL argues that Respondents’ construction would change and remove important limitations found in the claims. For example, TPL asserts that Respondents’ construction would replace “data” with “file” and would remove the requirements that the converter chip “transfer to [and from] the host computer” and “convert[] signals.” (COB at 36-37.)

The ALJ agrees with TPL that the claim language is clear and no construction is necessary. The claim language supports this finding. While Respondents’ construction is not necessarily inconsistent with the claim language, Respondents’ construction would eliminate the claim limitation that the converter chip must be “for converting signals from flash memory cards to read data from the flash memory cards for transfer to the host computer.” Respondents appear to argue that their construction will not read this language from the claim, because “[t]he terms ‘converting signals’ and ‘to read data’ indicate that the converter chip must perform some action in response to a memory card being inserted, in order to read data from that memory card[]” and Respondents’ construction “properly reflects this by requiring the converter chip configure itself according to Figure 5.” However, while configuring the pins might be part of what the converter chip does, the pin configuration is not the same as “converting signals from the flash memory cards to read data from flash memory cards for transfer to the host computer.” The specification explains that “[c]onverter chip 11 may be needed to convert the serial data format of Memory Stick 18 to the parallel data format of a 68-pin PCMCIA slot.” ('638 Patent at 2:50-52.) Thus, it is clear that converting signals can involve more than just pin configuration, but also can include the format of the data. Thus, Respondents’ construction would read out these limitations from the claim, and at least, in part, incorrect.

Respondents' construction would also read in a significant limitation. It would require that the pin configuration be only that described in Figure 5 of the '638 Patent. The ALJ does not find anything in the claim language that would preclude or support this claim limitation. However, the Federal Circuit has repeatedly warned against reading limitations from the specification into claims. *Home Diagnostics, Inc. v. LifeScan, Inc.*, 381 F.3d 1352, 1358 (Fed. Cir. 2004) ("Absent a clear disavowal in the specification or the prosecution history, the patentee is entitled to the full scope of its claim language."). "There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution." *Thorner*, 669 F.3d at 1365. Respondents contend that the patentee has disavowed the full scope of the claims through statements in the specification and the consistent reference to Figure 5 in the various embodiments described in the specification.

However, "[t]he standard for disavowal of claim scope is [] exacting." *Thorner*, 669 F.3d at 1365. "Where the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question." *SciMed Life Sys.*, 242 F.3d at 1341. "It is [] not enough that the only embodiments, or all of the embodiments, contain a particular limitation." *Thorner*, 669 F.3d at 1366. Instead, "[t]o constitute disclaimer, there must be a clear and unmistakable disclaimer." *Id.* at 1366-67.

The ALJ simply does not find any clear and unmistakable disclaimer in the specification of the '638 Patent. A number of the sections that Respondents rely on are simply descriptions of different embodiments that state that the pins are configured as in Figure 5. ('638 Patent at 6:49-

51, 65-67, 7:19-21, 8:38-41, 9:4-9, 59-65.) None of these statements clearly limits the claims to Figure 5. However, the specification also states that “[d]ifferent flash-card formats can be supported” and “[a]ny device that needs Control Bus, Clock, Data Bus and Address Bus can be designed to fit into this slot.” (See '638 Patent at 11:60-12:33.) This suggests that the specification contemplates other possible pin configurations other than Figure 5.

Respondents also argue that the specification “characterized this pin configuration of Figure 5 as their alleged invention.” Specifically, Respondents point to the following section of the specification:

The present invention relates to an improvement in flash-memory card readers. The following description is presented to enable one of ordinary skill in the art to make and use the invention as provided in the context of a particular application and its requirements. Various modifications to the preferred embodiment will be apparent to those with skill in the art, and the general principles defined herein may be applied to other embodiments. Therefore, the present invention is not intended to be limited to the particular embodiments shown and described, but is to be accorded the widest scope consistent with the principles and novel features herein disclosed.

The inventors have realized that a universal adapter can be constructed using the CompactFlash card form factor. A reader that reads CompactFlash cards can then read any of the other flash-memory cards that plug into the CompactFlash adapter. The adapters are simple, inexpensive passive adapters without a conversion chip.

The inventors have found a pin mapping from the smaller flash-card formats to CompactFlash that allows for easy detection of the type of flash-memory card inserted into the adapter. Detection of the type of flash-memory card is thus performed automatically by electronic detection by the CompactFlash reader. The CompactFlash reader is modified to perform this card-type detection. Signal conversion such as serial-to-parallel is performed by the CompactFlash reader rather than by the adapter. Adapter costs are reduced while, CompactFlash reader cost is increased only slightly. The CompactFlash reader can use a single CompactFlash slot to read multiple flash-card types, including SmartMedia, MultiMediaCard, Secure Digital, Memory Stick, and CompactFlash.

('638 Patent at 4:17-49 (sections quoted in Respondents' brief underlined and emphasis added).)

As the full quote above illustrates, the inventors did not explicitly characterize the pin mapping as the “invention,” as Respondents suggest. The phrase “the present invention” and the pin map are separated by two full paragraphs — not the much smaller distance that Respondents’ aggressive use of ellipses suggests. The specification only informs us that the “inventors have found a pin mapping from the smaller flash-card formats to CompactFlash that allows for easy detection of the type of flash-memory card inserted into the adapter.” This is not similar to the case Respondents rely on *Honeywell International, Inc. v. ITT Industries, Inc.*, where “[o]n at least four occasions, the written description refer[ed] to [only one particular component] as ‘this invention’ or the ‘present invention[.]’” As the Federal Circuit has explained:

It is true that, in some circumstances, a patentee’s consistent reference to a certain limitation or a preferred embodiment as ‘this invention’ or the ‘present invention’ can serve to limit the scope of the entire invention, particularly where no other intrinsic evidence suggests otherwise. [...] On the other hand, [the Federal Circuit has] found that use of the phrase ‘present invention’ or ‘this invention’ is not always so limiting, such as where the references to a certain limitation as being the ‘invention’ are not uniform, or where other portions of the intrinsic evidence do not support applying the limitation to the entire patent.

*Absolute Software, Inc. v. Stealth Signal, Inc.*, 659 F.3d 1121, 1136 (Fed. Cir. 2011). The ALJ finds that the situation presented here is consistent with the second situation where the Federal Circuit has not found “the present invention” limiting. Because the references in the specification are not consistent and there is nothing to suggest applying this limitation to the entire patent.

Indeed, the other sections relied upon by Respondents provide even less support for their contention. Respondents also rely on a statement that “[t]he inventors have carefully examined the pins of the interfaces of various flash memory cards....” (‘638 Patent at 6:1-2.) However, this quote continues that that the inventors “have discovered that type-detection can be performed by examining two address pins.” (‘638 Patent at 6:2-3.) This full quote does not

suggest that the invention is limited to the pin layout in Figure 5. It does not even mention Figure 5 or suggest that Figure 5 is the only way to implement the inventors “discover[y].” Finally, Respondents rely on the description of Figure 5 in the specification that it is “a table of pin mappings....” However, the language here only suggests that this is one of many possible mappings, not that it is “the mapping.” Accordingly, the ALJ finds that the specification does not evidence the clear disavowal required to limit the claim scope. This does not suggest that the ALJ determines that the full scope of these claims is necessarily enabled or not. *Liebel-Flarsheim*, 481 F.3d 1371.

With this determination, the ALJ finds that the claim language is clear. The other proposed constructions merely substitute different words for the words in the claim. This does not add any additional clarity to the claims, so the ALJ declines to construe the terms and finds that their plain and ordinary meaning governs.

## V. THE ‘623 PATENT

### A. Background and the Claims

U.S. Patent No. 6,976,623 (“the ‘623 Patent”) is entitled “Flash Juke Box” issued on December 20, 2005, to Sreenath Mambakkam; Arockiyaswamy Venkidu; and Larry Jones. TPL has asserted independent Claims 1, 9 and 17 and dependent Claims 2-4, 10-12, and 18-19 of the ‘623 patent. The disputed claim terms are found in the independent claims. The asserted claims read as follow (with the disputed terms in bold):

#### 1. A memory card interface apparatus comprising:

a plurality of memory card interfaces comprising a first 30 subset to interface with a memory card of a first type and a second subset to interface with a memory card of a second type, wherein the memory card of the first type and the memory card of the second type are **accessible in parallel** to transfer data from the memory card of the first type to the memory card of the second type.

#### 9. A system comprising:

a controller circuit;  
 a bus coupled to the controller circuit;  
 a plurality of memory card interfaces comprising a first subset to interface with a memory card of a first type and a second subset to interface with a memory card of a second type, wherein the memory card of the first type and the memory card of the second type are **accessible in parallel** to transfer data from the memory card of the first type to the memory card of the second type.

**17. A method comprising:**

providing access to a plurality of memory card interfaces comprising a first subset to interface with a memory card of a first type and a second subset to interface with a memory card of a second type;  
 and selectively operating the first and second subsets to **provide access to the memory cards of the first and second types in parallel** to transfer data from the memory card of the first type to the memory card of the second type.

**B. “accessible in parallel” (“623 patent, cls. 1 and 9) / “to provide access to the memory cards of the first and second types in parallel” (Claim 17)**

<b>TPL’s Proposal</b>	<b>Respondents’ Proposal</b>
<p>Plain and ordinary meaning, no construction necessary.</p> <p>In the alternative, if construed:</p> <p>Accessible in parallel: “capable of concurrent read/write access”</p> <p>To provide access to the memory cards of the first and second types in parallel: “to provide the capability for concurrent read/write access between the two memory card types”</p>	<p>Each transmitting or receiving data simultaneously at a given point in time.</p>

TPL believes that no construction is necessary, and states in their brief that the phrases mean what they say without the need of an explanation. (COB at 30.)

Respondents have a more complicated take on the meaning of the two phrases and lay out their views in their brief:

The parties dispute centers on two issues : (i) whether the first and second memory cards transmitting or receiving data are, in fact, accessible in parallel, or need only be capable of being accessible in parallel, and (ii) whether the memory cards need to be simultaneously read from or written to for parallel access to occur. Respondents' proposed construction correctly bounds the claimed invention to a system where the first and second memory cards *are* accessible in parallel, with each memory card transmitting or receiving data simultaneously at a given point in time. TPL proposes that the first and second memory cards need only be *capable of* read/write *access*, and need not be read from or written to at the same time for parallel access to occur.

(ROB at 76 (emphasis in original.) The ALJ finds that Respondents appear to err in their reading of the claim, by mistaking the term "accessible" as requiring that access occur in each and every instance. The ALJ finds that the phrase: "are accessible" does not require that each memory device is accessed each time; it merely requires that if the user wishes to access more than one at a time, the user may do so.

The '623 patent contains no requirement that each memory card in the invention be transmitting or receiving data simultaneously at a given point in time. The patent uses the word "simultaneously" only once, in the Background of Invention, and where it states: "What is clearly needed is a memory card jukebox that may be used to make a multitude of such memory/media cards available simultaneously, allowing a user to read and copy among them, etc., without having to manually shuffle them in and out of their readers." ('623 Patent at 1:66-67, 2:1-3.) This language does not require that the cards function simultaneously, but rather that it be possible for them to be in their respective slots simultaneously, so the operator of the system can access them without taking them in and out.

Respondents attempt to build the case for this limitation through the prosecution history of the '623 Patent:

The prosecution history reinforces the '623 patent's focus on the first and second memory cards being accessible in parallel, with each card simultaneously transmitting or receiving data. In an Office Action mailed

March 5, 2004, the Patent Office rejected the '623 patent's claims, finding that prior art reference (U.S. Patent Publication No. 2002/0178307 to Pua ("Pua"), attached as Ex. 14) disclosed multiple memory cards accessible in parallel. (Ex. 11, '623 patent excerpted file history, at TPL000104.) In the Applicant's Response to this Office Action dated April 29, 2004, its sole argument to overcome this rejection was that, in Pua, "no more than one interface [i.e., memory card] can be *operative at a given point in time.*" (*Id.* At TPL000121.)

(ROB at 77 (emphasis in the original).) This quotation from the prosecution history does not lead to the conclusion that the first and second memory card **must** operate at the same time. Rather, the applicant merely indicated that they **can** operate at a given point in time. This option distinguishes the '623 Patent from the prior art reference Pua that was under consideration. Pua had multiple slots that could only be operated one at a time. The mere possibility that a device can do something does not mean that the device must do that thing. Thus, in order to accept Respondents' claim construction, the ALJ must read a limitation into the claim that is not found in the patent or in the prosecution history.

In another attempt to use prosecution history to bolster their claim construction proposal, Respondents refer to Takase for guidance as to what accessible in parallel means:

In an Office Action mailed August 23, 2004, the Examiner concluded that prior art reference (U.S. Patent No. 6,381,513 to Takase ("Takase")) taught memory cards accessible in parallel because one could "read, erase, and write data to the memory cards in parallel." (*Id.* at TPL000173.) In response to this Office Action, the Applicant **admitted** that this did indeed teach parallel access: "Takase discloses a system in which a plurality of memory cards of the same type may be accessed in parallel." (*Id.* at TPL000190.)  
(ROB at 78.)

While the applicant agreed that the prior art teaches parallel access, Respondents again ignore that the prior art, as well as the '623 Patent, does not **require** that the memory cards be accessed simultaneously—it only requires that they "may be accessed in parallel". The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary

skill in the art when read in the context of the specification and prosecution history. See *Phillips*, 415 F.3d at 1313. There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution. *Vitronics*, 90 F.3d at 1580. The standard for disavowal of claim scope is similarly exacting:

“Where the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question.”

*SciMed Life Sys.*, 242 F.3d at 1341. “The patentee may demonstrate intent to deviate from the ordinary and accustomed meaning of a claim term by including in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.” *Teleflex, Inc.*, 299 F.3d at 1325; see also *Home Diagnostics, Inc.*, 381 F.3d at 1358.

In this case, the prosecution history does not demonstrate that the patentee clearly abandoned a system that allowed the operator to access the memory devices one at a time, but covered only a system where more than one device was accessed simultaneously. The patentee also clearly did nothing in the patent that would suggest they were acting as their one lexicographer by establishing their own definitions of “may, can, or are accessible” to a meaning that requires accessing at the same point in time. Therefore, the ALJ finds that the terms “accessible in parallel” (‘623 Patent at cls. 1 and 9) and to provide access...in parallel.” (claim 17) have their plain and ordinary meaning.

**C. “to transfer data from the memory card of the first type to the memory card of the second type” (‘623 patent, cls. 1, 9, 17)**

TPL's Proposal	Respondents' Proposal
<p>Plain and ordinary meaning, no construction necessary.</p> <p>In the alternative, if construed, this term should only be construed to clarify that:</p> <p>Data read from a card of the first type is written to the card of a second type.</p>	<p>The data being transferred to the memory card of the second type comes directly from the memory card of the first type, rather than another source.</p>

TPL believes that no construction is necessary, and states in their brief that the phrases mean what they say without the need of an explanation:

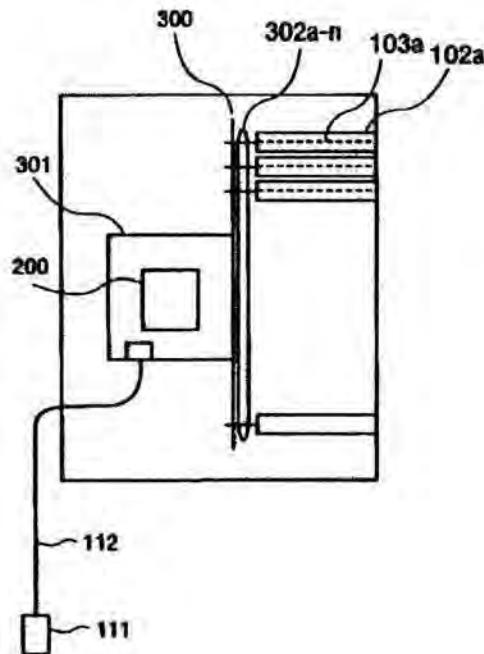
This phrase is readily comprehensible and does not require construction. The plain and ordinary meaning of this phrase is apparent from the claim language. When a claim term or phrase will be readily comprehensible to the finder of fact, the term or phrase requires no construction. *See U.S. Surgical*, 103 F.3d at 1568 (Claim construction “is not an obligatory exercise in redundancy.”); *Certain Mobile Devices*, Inv. No. 337-TA-744, Order No. 6 at 37, 2011 WL at \*27.

(COB at 27.) Respondents have a straight forward alternative for this term, stating that the word “directly” must be added to the claim terms because of express claim amendments and arguments made to the Patent Office in attempting to obtain allowance of the ’623 Patent (ROB at 79.) Respondents cite several parts of the specification and the claims in an effort to support this position:

The ’623 patent’s claims and specification state that the memory cards transfer data directly to one another, rather than through another source. Claims 1, 9, and 17 all recite that the alleged invention “transfer[s] data from the memory card of the first type *to* the memory card of the second type.” (Ex. 6, ’623 patent, Cl. 1, 9, 17 (emphasis added).) The specification describes that data is transferred directly between memory cards. (*See, e.g., id.* at 1:58-61 (“When the user sits at his computer, he may want to keep the [memory] cards in a device designed like a juke box, so he can...transfer files among them...”); *see also id.* at 1:66-2:3.)

(ROB at 79.)

While Respondents are correct in stating the claims state that the invention makes it possible to transfer data from a memory card of the first type to a memory card of a second type, the claims do not recite the limitation “directly”, and they are silent as to how the invention will accomplish that transfer, whether it is directly, or through other means. Claim 9 actually does include a controller circuit and a bus coupled to the controller circuit that allows the transfer of data from the cards. While the '623 Patent Figures show that the memory cards are connected by shared lines (ROB at 80), the Figures also show that the lines are connected to a controller (200) as evidenced in the figure reproduced below:



*Figure 3 of the '623 Patent*

Respondents also argue that the patentee abandoned a system that did not require the two types of cards to transfer data directly to each other, in order to get the claims allowed in light of the prior art patents of Pua and Takase. However, as in the earlier claim construction, Pua was distinguished by not being able to access more than one memory card at a time.

because it taught transferring data between memory cards of the same type, not different types.

Resp. Ex. 11; TPL000190:

Takase describes a system in which a plurality of memory cards of the same type may be accessed in parallel. For example, see columns 15 and 16. However, Takase fails to teach or suggest that a memory card of the first type and a memory card of a second type may be accessed in parallel.

Pua (US 2002/0178307) describes a system which provides serial access to a number of memory cards of different types (see paragraph 37, column 2). However, Pua does not teach or suggest that a memory card of a first type and a memory card of a second type may be accessible in parallel.

Thus, the combination of Takase and Pua would provide a system in which there would be parallel access for memory cards of the same type, and serial access for memory cards of different types. The combination of Takase and Pua would still fail to teach or suggest that a memory card of the first type and a memory card of the second type may be access in parallel, as recited in claim 1.

There appears to be nothing in the file history that would demonstrate that the patentee abandoned any embodiment of the invention that did not transfer data directly from memory card of one type to a memory card of a different type. The amendment allowed a transfer of data from a first memory card to a second using indirect means:

1. (Currently Amended) A memory card interface apparatus comprising: a plurality of memory card interfaces comprising:  
a first subset to interface with a memory card of a first type and a second subset to interface with a memory card of a second type, wherein the memory card of the first type and the memory card of the second type are accessible in parallel to transfer data from the memory card of the first type to the memory card of the second type.

10. (Currently Amended) A system comprising:

a controller circuit;

a bus coupled to the controller circuit;

a plurality of memory card interfaces comprising a first subset to interface with a memory card of a first type and a second subset to interface with a memory card of a second type, wherein the memory card of the first type and the memory card of the second type are accessible in parallel to transfer data from the memory card of the first type to the memory card of the second type. TPL000229-TPL00023

Resp. Ex. 11; TPL000190

Once more, there is no clear disavowal of a system that does the transfer indirectly, and no specific language that would require it to be done only by a direct transfer.

There is nothing in the '623 patent that would lead a person of ordinary skill in the art to believe that the patentee was acting as his own lexicographer, nor is there anything in the prosecution history that would amount to a disavowal of any embodiment that did not directly transfer the data from one first type of memory card to one of the second type.

In examining the '623 patent the specification contains language that indicates that the patentee did not abandon all embodiments that did not directly transfer data from one memory card to another of a second type. From Column 3 line 65 through column 5 line 16 of the '632 Patent, the specification discusses a number of embodiments and ways of using the invention that would not require the direct communication of a memory card of a first type with one of a second type:

**FIG. 2 illustrates a diagram of controller 200, in accordance with one embodiment. In one embodiment, the controller 200 is implemented and includes the techniques and**

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specifications as disclosed in co-pending U.S. application Ser. No. 10/167,929, which was filed on Jun. 11, 2002, entitled "Smartconnect Universal Flash Media Card Adapters", which is incorporated herein by reference.

- 5 As illustrated in FIG. 2, USB connector 111 connects controller 200 to the host computer. In addition to a standard bus 201 for controlling the slots 102a-n, controller 200 has a multitude of multiplexed control lines 202a-n. In one embodiment, the lines 202a-n address multiplexors, or  
10 transfer buffers, 220a-n, which in one embodiment may turn on/off selected control lines 212a-n and/or data lines 211a-n to activate/deactivate or communicate data with the flash media in each respective slot(s).

This language from the '623 patent discloses the use of a host computer, and bus for controlling the slots. There is no language that places a restriction that neither the computer nor the transfer buffers can be used to transfer information from a memory card of a first type to a memory card of a second type. A person of ordinary skill in the art would know that the transfer buffers can communicate data with the flash media in each respective slot, and conclude that these media do not have to communicate directly, but can do so through the buffers.

Further, in column 4, lines 31-37 the patent describes an embodiment that does not need buffers, but uses chip select signals to activate and deactivate the various cards, or multi-tiered bus lines:

In alternative embodiments, if the unit has only a small number of slots, buffers may not be needed and only chip select signals may be used to activate and deactivate the various cards. In yet other cases, multi-tiered bus lines may  
35 be used. For example, a unit with 100 slots may use five segments with 20 slots each, and an additional layer of buffers must be introduced in a hierarchical wiring scheme.

In column 5, lines 16-27, the '623 Patent additionally describes using a small computers system interface command set to help perform the tasks for which the invention is designed:

ing from the scope of the invention.

In one embodiment, to assist in providing compatibility with the Operating Systems and the driver stack, a jukebox with display capabilities will report itself as a Mass Storage Device on LUN (Logical Unit) 0 with 0 LUNs and a Simple 20 Display Device on LUN 1. Application software issues inquiry command with LUN 0 and then LUN 1 and a jukebox with display capabilit. ie ans would respond with success to both the LUNs whereas a jukebox without would only respond to LUN 0. Alternative encodings may be 25 implemented without departing from the scope of the invention.

Based on the absence of clear language that disavowed embodiments where the memory cards did not communicate directly, and the specification, the intrinsic evidence requires the ALJ to reject the proposed claim construction offered by Respondents. Therefore, the ALJ finds that the claim terms "**to transfer data from the memory card of the first type to the memory card of the second type**" shall have their plain and ordinary meaning. The plain and ordinary meaning of this phrase is apparent from the claim language. When a claim term or phrase will be readily comprehensible to the finder of fact, the term or phrase requires no construction. *See U.S. Surgical*, 103 F.3d at 1568 (claim construction "is not an obligatory exercise in redundancy.").

## VI. THE '549 PATENT

### A. Background and the Claims

U.S. Patent No. 7,162,549 ("the '549 Patent") is entitled "Multimode Controller for Intelligent and "Dumb" Flash Cards." The '549 Patent issued on January 9, 2007. The named inventors are Sreenath Mambakkam, Larry Jones, Arockiyaswamy Venkidu, and Nicholas Antonopoulos. TPL asserted claims 7, 11, 19 and 21. Claims 7 and 11 are independent claims

and claims 19 and 21 depend on claims 7 and 11, respectively. The asserted claims are (with disputed terms in bold):

7. A method comprising:

using a controller chip to interface a flash storage system with or without a controller to a computing device, the controller chip comprising a **flash adapter**, wherein the flash storage system comprises a flash section and at least a medium ID;

determining whether the flash storage system includes a controller for error correction; and

in an event where the flash storage system does not have a controller for error correction, using firmware in the flash adapter to perform operations to manage error correction of the flash section, including bad block mapping of the flash section in the flash storage system that is coupled to the **flash adapter section**.

11. A system comprising:

a computing device;

a flash storage system comprising a flash section and at least a portion of a medium ID; and

a controller chip coupled between the computing device and the flash storage system to interface the flash storage system to the computing device, the controller chip comprising an interface mechanism capable of receiving flash storage systems with controller and controllerless flash storage systems, a detector to determine whether the flash storage system includes a controller for error correction and a **flash adapter** which comprises firmware to perform, in an event where the flash storage system does not have a controller for error correction, operations to manage error correction of the flash section, including bad block mapping of the flash section in the flash storage system that is coupled to the **flash adapter section**.

19. The method of claim 7, wherein the flash adapter further comprises a plurality of interfaces for receiving a plurality of flash storage systems.

21. The system of claim 11, wherein the flash adapter further comprises a plurality of interfaces for receiving a plurality of flash storage systems.

**B. “adapter” (claims 7, 11; ‘443 Patent claims 1, 9)**

<b>TPL’s Construction</b>	<b>Respondents’ Construction</b>
TPL refers to its proposals on “multi-memory media adapter” and “flash adapter”/ “flash adapter section”	A device for electrically and physically connecting parts that will not mate.

TPL argues that Respondents attempts to construe “adapter” in isolation should be rejected. (COB at 9.) TPL argues that a “multi-memory media adapter” and a “flash adapter”/ “flash adapter section” are two different types of adapters and that any attempts to give them the same meaning would be improper and contrary to the intrinsic evidence.

Respondents argue that its proposed construction is plain meaning and is consistent with the specification and the prosecution history. (ROB at 66-72.)

The ALJ finds that the term “adapter” need not be construed in isolation. First, Respondents have failed to explain or cite to any supporting authority that would allow the ALJ to construe a single claim term to have identical meanings for patents directed at two completely different inventions. According to Respondents, the ‘443 Patent is directed at “how a single, shared set of pins in a memory card reader’s slot can be used by different types of memory cards” (ROB at 4) whereas the ‘549 Patent is directed to “error correction in memory cards and, in particular, a controller chip that makes a determination as to whether the particular type of memory card inserted into the reader includes a specific controller for error correction.” (ROB at 6.) Respondents have presented no reason to the ALJ as to why these two unrelated patents that do not even share the same specification or any other sort of familial relationship should have a single divorced claim term be construed in exactly the same manner. Absent a good reason for doing or any cited relevant authority, the ALJ declines such an exercise.

Second, turning to the ‘549 Patent specifically, the ALJ finds that Respondents have failed to cite to any evidence to support their proposal that “adapter” be construed in isolation

and separate and apart from the phrase “flash adapter”. All of the claims of the ‘549 Patent, both asserted and unasserted, claim a “flash adapter”—there is no use of the term “adapter” in isolation. Furthermore, Respondents have proposed a claim construction for the claim terms “flash adapter,” which fails incorporate Respondents’ proposed construction for “adapter” in isolation. In other words, the construction of “adapter” was not crucial for Respondents’ construction of “flash adapter.” As there is no use of the claim term “adapter” in isolation in any of the claims of the ‘549 Patent (or the ‘443 Patent), the ALJ declines to construe the claim term. *Vanderlande Indus.*, 366 F.3d at 1323 (only claim terms in controversy need to be construed and only to the extent necessary to resolve the controversy); *Vivid Tech.*, 200 F.3d at 803.

Respondent also argue that “uses of the word ‘adapter’ are far too numerous to list exhaustively...” (ROB at 67.) However, this appears to be in reference to the specification and, based on Respondents’ own cited example, the use of the word “adapter” is never used in complete isolation, *i.e.* there is some descriptive adjective (“Memory Stick adapter”) or there is some contextual meaning provided. (*See generally* the ‘549 Patent specification.)

Therefore, the ALJ declines to construe “adapter” in isolation. To the extent that the ALJ declines to construe “adapter” separately from “flash adapter”/ “flash adapter section”, TPL’s arguments related to the construction of “multi-memory media adapter” are moot. Respondents’ proposed construction for “multi-memory media adapter” was subsumed within Respondents’ assertion that “adapter” should be construed in isolation. As set forth above, the ALJ has declined to construe that claim term in isolation.

C. **“flash adapter”**

TPL's Construction	Respondents' Construction
“flash adapter section” or “a section of the controller chip that enables communication with the flash storage system”	An adapter having an opening to accept a flash storage system.

TPL argues that one of ordinary skill in the art reading the claims as a whole would interpret “flash adapter” as the implicit antecedent basis for “flash adapter section.” (COB at 7.) TPL further argues that “flash adapter section” means “a section of the controller chip that enables communication with the flash storage system.” (COB at 8.) Hence, TPL argues that “flash adapter” means “a section of the controller chip that enables communication with the flash storage system.”

Respondents argue that “flash adapter” means “an adapter having an opening to accept a flash storage system.” (ROB at 68.) Respondents argue that the specification is consistent with their plain-meaning construction. (ROB at 69.) Respondents further argue that TPL’s construction contradicts the plain-meaning of the term and the prosecution history. (ROB at 70-71.) Thus, Respondents also argue that “flash adapter section” is indefinite without prior antecedent basis. (ROB at 72-73.)

The ALJ finds that “flash adapter” means “a section of the controller chip that enables communication with the flash storage system.” A skilled artisan reading the claims as a whole in light of the specification would adopt this construction. The claim language strongly supports this conclusion. Claims 7 and 11 describe a controller chip that comprises a “flash adapter.” (’549 Patent at Claims 7 and 11.) The ALJ finds that one of ordinary skill would understand that when a controller chip comprises a “flash adapter,” as described in the claims, the nature reading of that language is that a section or part of the controller chip is a “flash adapter.”

Another limitation in Claim 7 further supports this construction. Claim 7 describes “firmware in the flash adapter” that performs specific operations. (’549 Patent at Claim 7.) Respondents’ construction attempts to limit the scope of “flash adapter” to a device with an opening for connecting the flash storage system, but a skilled artisan reading in the claim that the flash adapter includes firmware would understand that the “flash adapter” is not limited to a plug or something with a physical opening. This plain reading of the claim language is consistent with the specification, which explains that the firmware in the flash adapter allows for transparent use of the flash. (’549 Patent at 28:67-29:1.) Thus, the firmware of the flash adapter is used to enable communication with the flash storage system.

An additional limitation in claim 11 further supports this construction. System claim 11 describes a controller chip that comprises “an interface mechanism capable of receiving flash storage systems,” a “detector,” and a “flash adapter.” (’549 Patent at Claim 11.) Respondents’ construction would render “an interface mechanism capable of receiving flash storage systems” duplicative, and thereby effectively render the “interface mechanism” element meaningless. The general assumption is that different terms have different meanings. *Symantec Corp. v. Computer Associates Int'l, Inc.*, 522 F.3d 1279, 1289 (Fed. Cir. 2008). The ALJ finds no meaningful difference between an “interface mechanism capable of receiving flash storage systems” and an “adapter having an opening to accept a flash storage system.” If “an interface mechanism capable of receiving flash storage systems” is construed to mean the same thing as a “flash adapter,” then the “interface mechanism” element is meaningless. The same problem does not arise by construing “flash adapter” to mean “flash adapter section” because both terms refer to the same element. Therefore, the Respondents’ construction is inconsistent with a reading of the claims that gives different meanings to different terms.

The ALJ finds Respondents' other claim construction arguments unpersuasive. Respondents argue that because the specification describes several adapters that have openings, the "flash adapter" in claims 7 and 11 must also have an opening. (ROB 69-70.) However, nothing in the specification limits all adapters to Respondents' narrow meaning. The specification does not use the term "flash adapter" in a way that suggests it is the same as the adapters referenced by Respondents. The ALJ finds that the "flash adapter" in claims 7 and 11 is different from the adapters referenced by Respondents because the "flash adapter" in the claims is part of a controller chip. Unless the Applicants clearly disavow claim scope in the specification, the patentee is entitled to the full scope of the claim language. *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d at 1366. Thus, it would be inappropriate to conclude that the "flash adapter" described in claims 7 and 11 also must necessarily have an opening.

Respondents further rely on a dictionary to discern the plain-meaning of "adapter," and then use that to limit the meaning of "flash adapter." (ROB at 69.) As set forth in the previous section, the ALJ declined to construe the term "adapter" in isolation and any attempts by Respondents to use the construction of "adapter" to limit "flash adapter" are rejected. Moreover, even if the ALJ had construed "adapter," it would not serve to limit "flash adapter" as proposed by Respondents. Dictionaries can be a valuable tool for finding the generally accepted meaning of a term, but they should not be used to contradict any definition ascertained by reading the patent documents. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005). An over-reliance on dictionaries, even technical dictionaries, can lead to absurd results. *Id* at 1322. A claim should not rise or fall based upon the preferences of a particular dictionary editor. *Id*. Properly viewed, the "ordinary meaning" of a claim term is its meaning to the ordinary artisan after reading the entire patent. *Id.* at 1321. A skilled artisan reading the claims as a whole would

find a contradictory definition of “flash adapter” in the claims. Thus, Respondents’ argument that their construction is consistent with the plain-meaning of “flash adapter” is unpersuasive.

Respondents further argue that the prosecution history contradicts TPL’s construction. (ROB at 71-72.) However, the prosecution history is ambiguous and inconclusive. While the Applicants did change the claims and direct the invention from a controller chip to a flash adapter, and then back to a controller chip, the Applicants never expressly limited the scope of the term “flash adapter.” The prosecution disclaimer doctrine will not apply unless the Applicants clearly and unambiguously disclaimed meaning during prosecution. *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003). Respondents cannot point to any clear and unambiguous statements made by the Applicants during prosecution that supports their construction. While the Examiner made some statements regarding his understanding of the claim scope, the Applicants never adopted them. Moreover, later actions suggest the Examiner abandoned his previous position. See *DeMarini Sports, Inc. v. Worth, Inc.*, 239 F.3d 1314, 1326 (Fed. Cir. 2001). Thus, the ALJ finds that TPL’s construction does not contradict the prosecution history.

Therefore, the ALJ finds that “flash adapter” means “a section of the controller chip that enables communication with the flash storage system.”

#### **D. “flash adapter section”**

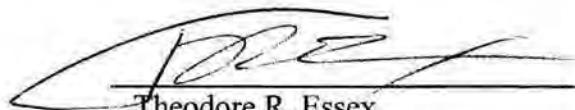
<b>TPL’s Construction</b>	<b>Respondents’ Construction</b>
a section of the controller chip that enables communication with the flash storage system	This term is indefinite. No “flash adapter section” was recited previously.

TPL argues that “flash adapter section” means “a section of the controller chip that enables communication with the flash storage system.” (COB at 8.) TPL further argues that “flash adapter” is the implicit antecedent basis for “flash adapter section.” (COB at 7.)

Respondents argue that because “flash adapter section” is not recited previously, it is indefinite. (ROB at 72-73.) Respondents further argue that antecedent basis for “flash adapter section” is not present by implication and the meaning of “flash adapter section” is not reasonably ascertainable. (ROB at 73-74.)

The ALJ finds that one of ordinary skill in the art would understand that “flash adapter” is the antecedent basis of “flash adapter section.” If the scope of a claim would reasonably be ascertained by those skilled in the art, then the claim is not indefinite, and the antecedent basis can be implicit. *Energizer Holdings, Inc. v. Int'l Trade Comm'n*, 435 F.3d 1366, 1370 (Fed. Cir. 2006). Claims 7 and 11 both describe a controller chip that comprises a “flash adapter” and a flash storage system coupled to the “flash adapter section.” The ALJ finds that one of ordinary skill in the art would reasonably ascertain that “flash adapter section” refers to the same “flash adapter” that is a section of the controller chip. Accordingly, the term is not indefinite.

**SO ORDERED.**



Theodore R. Essex  
Administrative Law Judge

**CERTAIN COMPUTERS AND COMPUTER PERIPHERAL  
DEVICES AND COMPONENTS THEREOF AND  
PRODUCTS CONTAINING THE SAME**

Inv. No. 337-TA-841

**PUBLIC CERTIFICATE OF SERVICE**

I, Lisa R. Barton, hereby certify that the attached **ORDER** has been served upon the following parties as indicated on **October 5, 2012**.



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**CERTAIN COMPUTERS AND COMPUTER PERIPHERAL  
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**Inv. No. 337-TA-841**

Certificate of Service – Page 4

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